

## ABSTRACT OF THE DISCLOSURE

[35] Certain embodiments of the present invention relate to a dynamic power management system. The system includes a power input providing power to an imaging system, measurement unit(s) for measuring current and/or voltage in the imaging system, and a power management controller allocating available power among components in the imaging system. The power management controller may allow a battery to charge at a maximum rate based on current used by the imaging system components. The measurement unit(s) may measure a voltage and a current for the power provided to the imaging system. The power management controller may control current drawn by the imaging system components. The system may also include a limit sensor for detecting when current consumption exceeds a certain limit. Additionally, the system may include at least one switching unit controlled by the power management controller. The switching unit(s) control an amount of power routed to imaging system components.